User's Manual
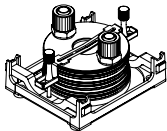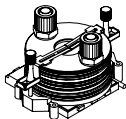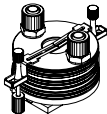
(English Edition)

**Intel Pentium 4
Socket 478 CPU**

**AMD Athlon/
Duron/Athlon XP
Socket 462 CPU**

**AMD Athlon 64
Socket 754 CPU**

ZM-WB2 Gold

* Please read before installation

http://www.zalman.co.kr   http://www.zalmanusa.com

1. Features

1) Gold plated pure copper base maximizes cooling performance and prevents CPU blocks from galvanic corrosion
2) Intel Pentium 4 (Socket 478), AMD Athlon/Duron/Athlon XP (Socket 462),Athlon 64 (Socket 754) compatible design for broad compatibility.
3) Three types of compression fitting are offered for use with water tubes (8X10mm,8X11mm,10X13mm)
   * Zalman Tech. Co., Ltd. is not responsible for any damage resulting from CPU OVERCLOCKING.
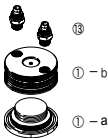
2. Specifications

Part No	Part name	Q' ty	Weight (g)	Use
1	CPU block	1	447.0	CPU mountimg
2	Hand screw	2	8.0	Clip mountimg
3	Thermal grease	1	1.8	Apply to cpu core
4	Clip	1	9.6	CPU block mountimg
5	User's manual	1		
6	Clip supports	2	8.2	Socket 478
7	Clip supports A	2	5.0	Socket 462
8	Clip supports B	2	5.0	Socket 462
9	Bolts	4	0.8	Clip supports A, B-type
10	Paper washer	1 set		7, 8 mountimg
11	Nipple	2	6.2	Socket 754 mountimg
12	Back plate		60.0	Socket 754 mounting
13	Fitting	3 set		Fitting to 8 x 10mm, 8 x 11mm, 10 x 13mm tubes

NOTE 1) The maximum weight for the cooler is specified as 450g/450g/300g for socket 478/754/462 respectively. Special care should be taken when moving a computer equipped with a cooler which exceeds the relevant weight limit. Zalman Tech Is not responsible for any damage that occurs when moving a computer.
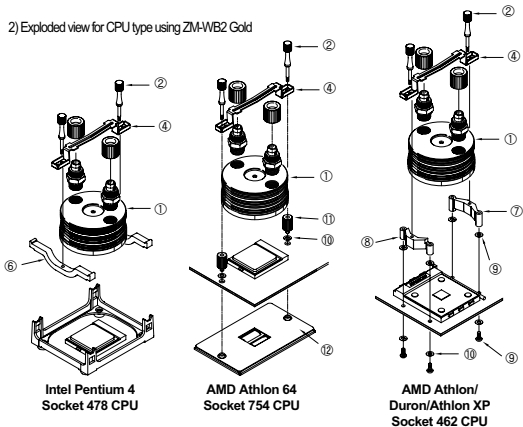
3. Exploded View

1) Exploded view of CPU block

   ① – **a Block base**

   ① – **b Block cover**

   ⑬ **Fittings**

2) Exploded view for CPU type using ZM-WB2 Gold
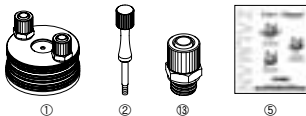

Intel Pentium 4 Socket 478 CPU

AMD Athlon 64 Socket 754 CPU

AMD Athlon/ Duron/Athlon XP Socket 462 CPU

4. Components

1) Common Components
  ① CPU block - 1 pc.
  ② Hand screw - 2 pcs.
  ③ Thermal grease - 1 pc.
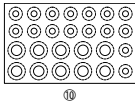 ④ Clip - 1 pc.
  ⑤ User's manual
  ⑬ Fittings - 6 pcs. (3 sets)

2) Components for Intel Pentium 4 (Socket 478)
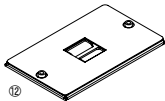 ⑥ Two (2) Clip Supports for Socket 478

3) Components for AMD Athlon / Athlon XP (Socket 462)
  ⑦ One (1) A -Type(blue) Clip Support for AMD Socket 462
  ⑧ One (1) B -Type(white) Clip Support for AMD Socket 462
  ⑨ Four Bolts - For Fastening Clip Supports
  ⑩ One Set of Washers

4) Components for AMD Athlon 64 (Socket 754)
  ⑪ Two Nipples
  ⑫ One Backplate

5. Compatible CPU Types

1) Intel Pentium 4 - Socket 478

All speeds of Pentium 4 Socket 478 CPUs

Caution

As shown in Figure 2, a mainboard that is not compliant with the "10.2 mm mainboard component height restriction" standard, introduced by Intel, may create interference between components and the clip. Please do not install the ZM-WB2 when this interference is observed.
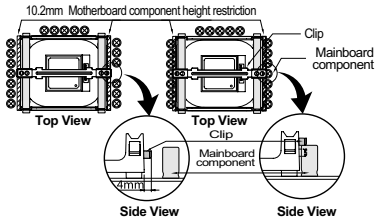
10.2mm Motherboard component height restriction

Clip

Mainboard component

Top View

Top View

Clip

Mainboard component

4mm

Side View

Side View

Figure 1 (O)   **Figure 2 (X)**

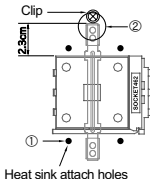**2) AMD Athlon/Duron/Athlon XP - Socket 462**

All speeds of AMD Socket 462 CPUs

Caution

① **This product requires "Heatsink Attach Holes" around CPU Socket as shown on the right.**

② **This product can not be installed if any Motherboard component(capacitor) taller than 1.5cm is located under the clip.**

Clip

②

2.3cm

SOCKET 462

①

Heat sink attach holes

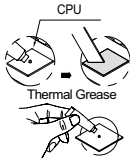**3) AMD Athlon 64 - Socket 754**

All speeds of AMD Socket 754 CPUs

6. Cautions During Installation

1) Keep this product away from children.
2) Zalman Tech. Co., Ltd. is not responsible for any problems arising from using the product outside its intended purpose..
3) The exposed core of a Socket 462 CPU can be damaged if proper care is not taken. Read the "Installation" section thoroughly before installing.
4) Please do not install this product if ZM-WB2 interferes with any mainboard components.
5) Zalman Tech. Co., Ltd. is not responsible for any problems arising from using the ZM-WB2.

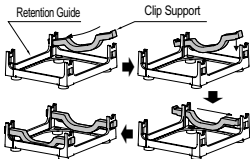## 7. Installation (INTEL Pentium 4, Socket 478)

1) Apply Thermal Grease
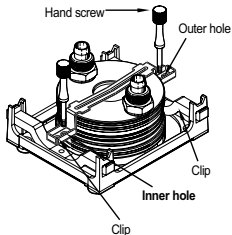Spread thermal grease thinly and evenly over the CPU core (IHS).

CPU

Thermal Grease

2) Install Clip Support
Install the two clip supports at both sides of the retention guide as shown on the right.

Retention Guide   Clip Support

3) Insert Hand screws

Insert hand screws into the **inner holes** on the clip.

Hand screw

Outer hole

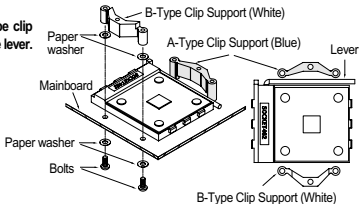Clip

Inner hole

Clip

4) Fasten Hand screws

Place the CPU block on the center of the CPU. Screw in both Hand screws in an alternating fashion until they are completely tightened.

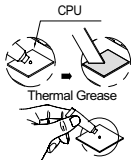## 8. Installation-AMD XP/Duron, Socket 462

1) Install Clip spport

Install the socket 462 clip supports as shown on the right.

Be sure to install A -Type clip support (Blue) next to the lever.

B-Type Clip Support (White)

Paper washer

A-Type Clip Support (Blue)

Lever

Mainboard

Paper washer

Bolts

B-Type Clip Support (White)

2) Apply Thermal Grease

Spread thermal grease thinly and evenly over the CPU.
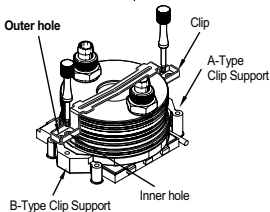

CPU

Thermal Grease

3) Insert Hand screws

Insert hand screws into the **outer holes** on the clip.

4) Fasten Hand screws

Place the CPU block on the center of the CPU. Screw in both hand screws in an alternating fashion until they are completely tightened.
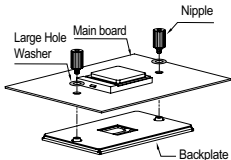

Outer hole

Clip

A-Type Clip Support

B-Type Clip Support

Inner hole

9. Installation-AMD XP/Duron, Socket 462

1) Fasten Nipples

Position the backplate on the bottom of the mainboard under the CPU socket, then fasten the nipples as shown on the right.

* When installing the ZM-WB2 on an Athlon 64, the retention frame is not needed.

Nipple

Large Hole Washer

Main board

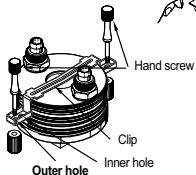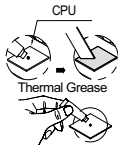Backplate

2) Apply Thermal Grease

Spread thermal grease thinly and evenly over the CPU.

3) Insert Hand screws

Insert hand screws into the **outer holes** on the clip.

4) Fasten Hand screws

Place the CPU block on the center of the CPU. Partially screw the bolts into the nipples. Then, screw both bolts down further in an alternating fashion until they are completely tightened.

CPU

Thermal Grease

Hand screw

Clip

Inner hole

Outer hole

10. Build a noiseless system

Creating a Complete Noiseless System

Use the following Zalman products to achieve stable and silent operation of your computer, Noiseless Power Supply, Fanless Coolers for Northbridge Chipset & Video Card, and Noiseless Fan.

Power supply
ZM400A-APF

Northbridge Cooler
ZM-NB47J

Noiseless fan

VGA Cooler
ZM80C-HP

HDD Cooler
ZM-2HC1